

Application No. 10/518,423 - - - - 4

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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A spinal stabilization device comprising: a cage having a distal end adapted for insertion into a spinal disc passageway formed in a spinal disc and an open proximal end adapted to receive the shaft of an insertion device; and

anchors on the exterior of the cage for engaging the disc and stabilizing the cage in the spinal disc passageway.

Claim 2 (withdrawn): The device in accordance with claim 1 wherein the cage is made of a helical metal coil having exterior edges beveled into a sharp point and comprising the anchors, the coil further including internal threads formed adjacent the proximal and distal ends thereof and adapted to receive an end plate and a nose piece respectively, the nose piece being closed for extension into the passageway formed in the spinal disc and the end plate being open to receive the shaft of the insertion device.

Claim 3 (withdrawn): The device in accordance with claim 1 wherein the cage is made of a hollow metal cylinder having helical threads extending around an outer surface thereof and comprising the anchors, the cylinder further defining a plurality of columns of openings formed therein and extending around the circumference thereof between each of the helical threads, the cylinder further including internal threads formed in proximal and distal ends thereof for threadingly securing an end plate and a nose piece thereto respectively, the nose piece being closed for extension into the passageway formed in the spinal disc and the end plate being open to receive the shaft of the insertion device.

Claim 4 (withdrawn): The device in accordance with claim 1 wherein the cage is made of a hollow metal cone having helical threads extending around an outer surface thereof and comprising the anchors, the cylinder further defining a plurality of columns of

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openings formed therein and extending around the circumference thereof between each of the helical threads, the cylinder further including internal threads formed in proximal and distal ends thereof for threadingly securing thereto an end plate and a nose piece respectively, the nose piece being closed for extension into the passageway formed in the spinal disc and the end plate being open to receive the shaft of the insertion device.

Claim 5 (withdrawn): The device in accordance with claim 1 wherein the cage is a hollow sphere having a plurality of longitudinally extending ridges thereon comprising the anchors and a plurality of rows of generally oval shaped openings defined on the exterior surface of the sphere, the sphere further including internal threads formed in the proximal and distal ends thereof for threadingly receiving an end plate and a nose piece respectively, the nose piece being closed for extension into the passageway formed in the spinal disc and the end plate being open to receive the shaft of the insertion device.

Claim 6 (withdrawn): The device in accordance with claim 1 wherein the cage is defined by a plurality of longitudinally oriented elongate slats extending between a nose piece and an end plate respectively, the end plate defining a bore and the nose piece defining an interior recess, the cage further including a screw extending through the bore in the end plate and the recess in the nose piece and being operably associated therewith such that when the screw is rotated in response to the rotation of the insertion or screwing device the end plate is moved in the direction of the nose piece and the slats flex outwardly, each of the slats having a plurality of spikes formed thereon and comprising the anchors.

Claim 7 (withdrawn): The device in accordance with claim 1 wherein the cage is defined by a plurality of longitudinal, elongate slats extending between a nose piece and an end plate, the nose piece including a closed, rounded distal end and the end plate including an open proximal end adapted to receive the shaft of the insertion or screwing device, the slats being made of a shape memory alloy and adapted to flex outwardly in response to a change in temperature.

Claim 8 (withdrawn): The device in accordance with claim 1 further comprising inner slats extending between the end plate and a proximal end of the nose piece and made of a shape memory alloy adapted to contract in response to a change in temperature.

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Claim 9 (withdrawn): The device in accordance with claim 3 wherein the hollow metal cylinder is made from a rolled sheet of flat metal.

Claim 10 (currently amended): A spinal stabilization device comprising: a cage having a distal end adapted for insertion into a spinal disc passageway formed in a spinal disc and an open proximal end adapted to receive the shaft of an insertion device; and

anchors on the exterior of the cage for engaging the disc and stabilizing the cage in the spinal disc passageway;

~~The device in accordance with claim 1 wherein the cage is defined by a cylindrical body having a bore defining an opening in the open proximal end thereof and a key hole adapted to receive the shaft of the insertion or screwing device.~~

Claim 11 (original): The device in accordance with claim 10 wherein the distal end of the cage is generally bullet-shaped.

Claim 12 (original): The device in accordance with claim 10 wherein the distal end of the cage is generally rounded.

Claim 13 (withdrawn): The device in accordance with claim 10 wherein the body of the cage is generally bulbous and the distal end thereof is generally bullet-shaped.

Claim 14 (withdrawn): The device in accordance with claim 10 wherein the cage is generally cone-shaped.

Claim 15 (original): The device in accordance with claim 10 wherein a plurality of spikes extend outwardly from an outer surface of the body and define the anchors.

Claim 16 (withdrawn): The device in accordance with claim 15 wherein the spikes extend from upper and lower faces of the outer surface of the body and threads extend outwardly from side faces of the outer surface of the body.

Claim 17 (withdrawn): The device in accordance with claim 10 wherein the body is composed of an inner core made of a first material and an outer core made of a second material.

Claim 18 (withdrawn): The device in accordance with claim 17 wherein the inner core is threaded within the outer core.

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Claim 19 (withdrawn): The device in accordance with claim 1 wherein the cage comprises a separate nose piece and end plate defining respective interior cavities and bands composed of shape memory alloy extending between the nose piece and the end plate.

Claim 20 (withdrawn): The device in accordance with claim 1 wherein the bands include hooked ends extending into the cavities defined in the nose piece and the end plate respectively.

Claim 21 (withdrawn): The device in accordance with claim 1 wherein the cage is packed with bone growth stimulating agents.

Claim 22 (withdrawn): The device in accordance with claim 1 wherein the cage is packed with a patient's bone marrow.

Claim 23 (withdrawn): The device in accordance with claim 22 wherein the bone marrow is mixed with a thixotropic material.

Claim 24 (withdrawn): The device in accordance with claim 22 wherein the bone marrow is mixed with bovine or other collagen.

Claim 25 (withdrawn): A spinal stabilization device which comprises: an expandable cage having a closed, rounded distal end and an open proximal end;

said cage being provided with plural anchors on the external surface thereof for engagement with contiguous bone tissue when said cage is expanded.

Claim 26 (withdrawn): The device in accordance with claim 25 wherein the cage is made of a memory metal and expands to a predetermined shape at body temperature.

Claim 27 (withdrawn): The device in accordance with claim 25 wherein the cage is expandable mechanically.

Claim 28 (withdrawn): The device in accordance with claim 25 wherein an end plate is attached to the proximal end of the cage.

Claims 29-35 (canceled).

Claim 36 (new): The device in accordance with claim 15 wherein the spikes are helical external threads which extend along the length of the body and protrude outwardly therefrom.